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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,594	12/03/2003	Dale Alan Nugent	14426.1USU1	8966
7590 09/20/2005 Merchant & Gould P.C. P.O. Box 2903 Minneapolis, MN 55402-0903			EXAMINER KRISHNAMURTHY, RAMESH	
			ART UNIT 3753	PAPER NUMBER

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,594

Applicant(s)

NUGENT ET AL.

Examiner

Ramesh Krishnamurthy

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3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/04 & 02/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

This office action is responsive to communications filed 02/22/2005.

Claims 1 – 25 are pending.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 15 and 18 – 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Gibbs (US 1,098,247).

Gibbs discloses an apparatus for controlling and metering fluid flow, comprising: a housing including a fluid flow conduit (A^2) having first, second (near (B)) and third portions along a length of the conduit, the first and third portions having a circular cross-section and the second portion including at least one planar sidewall (See Fig. 6, for example) and being positioned between the first and third portions; an element bore (B) extending transverse to the conduit and providing access to the second portion; and first and second sensor chambers (associated with sensors connected to (E^1 , E^2)) each having an inlet and an outlet, the inlet and outlet of the first sensor chamber being in fluid communication with respective first and second portions of the conduit, and the inlet and outlet of the second sensor chamber being in fluid communication with respective second and third portions of the conduit; an element (C) having a linear edge configured to mate with the at least one flat sidewall to form a seal therewith and movable in the element bore between an open position wherein fluid flows through the conduit and a closed position wherein the element substantially shuts off fluid flow

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through the conduit; and first and second pressure sensors (sensors connected to (E¹ , E²)) mounted in respective first and second sensor chambers and configured to determine a pressure differential in the housing, wherein the first and third portions of the conduit have a circular cross-section, and the second portion of the conduit has a rectangular cross-section (see Fig. 6).

It is noted that the device disclosed by Gibbs necessarily performs the method recited in claims 21 – 25.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs as applied to claims 1 – 15 and 18 - 25 above, and further in view of JP 11117915.

The patent to Gibbs discloses the claimed invention with the exception of explicitly disclosing the claimed tapered surfaces in the transition sections.

The document JP 11117915 discloses that it is known in the art to provide orifices having suitably tapered surfaces in transition sections for the purpose of providing high accuracy in pressure measurements since evidently such tapered transitions provide for gradual variation thereby providing for a smoother flow.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Gibbs orifice having suitably tapered surfaces in transition sections for the purpose of providing high accuracy in pressure measurements since such tapered transitions provide for gradual variation thereby providing for a smoother flow as evident from JP 11117915.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbs as applied to claims 1 – 15 and 18 - 25 above, and further in view of Roucka (US 1,580,678).

The patent to Gibbs discloses the claimed invention with the exception of explicitly disclosing the moveable element to have a tapered trailing edge facing downstream to the fluid flow.

The patent to Roucka discloses (Figs. 16 – 20) a variety of configurations for the moving element that includes one that has a tapered trailing edge facing downstream to the fluid flow.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in Gibbs a moveable element that has a tapered

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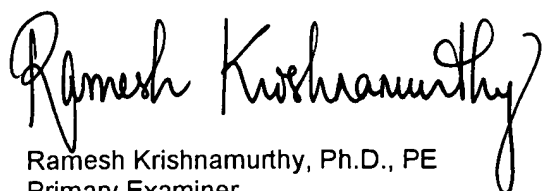
trailing edge facing downstream to the fluid flow, since such a feature is an art recognized equivalent to the one disclosed by Gibbs and is equally capable of providing accurate flow measurement/control as the configuration in Gibbs.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is (571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Nicolas, can be reached on (571) 272 – 4931. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramesh Krishnamurthy, Ph.D., PE
Primary Examiner
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